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REPORT

ON THE

Government Horticultural Gardens,

LUCKNOW,

FOR THE

YEAR ENDING 31ST MARCH 1905.

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ALLAHABAD:
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Hemendra Kothari

on 24 February, 2020

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No. $\frac{1351}{V-835}$ of 1905.

From

THE DIRECTOR OF LAND RECORDS AND AGRICULTURE,

UNITED PROVINCES,

To

THE CHIEF SECRETARY TO GOVERNMENT,

UNITED PROVINCES,

NAINI TAL.

Dated Lucknow, the 29th of May 1905.

SIR,

I HAVE the honour to submit the report on the Lucknow horticultural gardens for the year ending 31st March 1905. The report calls for no comment from me, but I would associate myself with what is said in the second paragraph regarding the sad death of Mr. Mathew Ridley, the late superintendent. The record of Mr. Gollan's services at Saháranpur affords the best guarantee that Mr. Ridley's work will be continued and developed.

I have the honour to be,

SIR,

Your most obedient servant,

W. H. MORELAND,

Director.

REPORT on the GOVERNMENT HORTICULTURAL GARDENS, LUCKNOW, for the year ending 31st March 1905.

I.—INTRODUCTORY.

1. *Charge of the gardens.*—The late Mr. M. Ridley was in charge of the gardens from the 1st of April to the 31st of May. From the 1st of June to the 22nd July he was on privilege leave. During that period the duties of the Superintendant were carried on by Mr. N. Gill of the Memorial Gardens, Cawnpore, in addition to his own duties. Mr. Ridley, on return from privilege leave, again assumed charge on the 23rd of July and held it until his death on the 17th of September last. I took over charge on the 20th of September, while my former post at Saharánpur remained on my hands as a visiting charge until I was relieved of it by the appointment of Mr. H. M. Leake on the 22nd of November. From the 23rd of November to the close of the year I have been in charge without interruption.

2. *Important administrative events.*—It is with great regret that I have to place on record the death of Mr. M. Ridley, the late Superintendent of the garden, on the 17th of September last. He was connected with the garden from the year 1875, first as assistant to Dr. E. Bonavia, the then Superintendant, and when the latter reverted to medical duty late in the year 1877, or early in 1878, as its Superintendent, and which position he held uninterruptedly until the day of his death. He was a man of great ability and a skilful and practical horticulturist, whose heart and soul were in his profession, as is clearly indicated by the many beautiful examples of the gardeners art which are to be met with in Lucknow.

3. *State of the gardens.*—The improvements initiated or planned in the time of my predecessor have made substantial progress during the year.

One of the most urgent matters calling for attention was suitable enclosure and, this I am glad to say is now nearing completion. Wire fencing on iron uprights has been erected on all the exposed sides of the gardens and in one section, where an untidy village had to be screened off, by the erection of a substantial brick wall.

An ornamental gateway has just been completed at the central or main entrance to the gardens. This gateway consists of brick pillars faced with Mirzapur stone, while the gates and the side wings are made of wrought iron of handsome design. Viewed as a whole, the gateway has a most pleasing appearance, and its construction is a credit to its builders, the Public Works department.

A similar gateway is under construction at the Shah Najaf entrance to the gardens, while a more modest affair composed of brick pillars, but not faced with stone, is nearing completion at the Sikanderbagh entrance. When all the new gateways are fully completed they will be an immense improvement on the old condition of affairs and a most artistic finish to the lines of new fencing.

Another piece of new work carried through during the year was laying the ground in front of the lately restored Sikandarbagh entrance archway under high class grass lawn. Formerly the ground in front of this historical building was an unkempt, debris-bestrewn block of land. Its transformation into high class lawn is therefore a vast improvement, and a pleasing and suitable setting off to the frontage of the archway.

The roads which were not attended to in the previous year were remetalled. With one or two minor exceptions, the whole of the garden drives are now in good order.

Some clearing has been done to the area lately added to the garden, but as it was only found possible to spare a few hands now and again from the ordinary establishment of the garden, very little impression has so far been made. The ground is exceedingly rough and uneven, and will absorb an immense amount of labour before much of a show can be made. A special grant of Rs. 800 has been given for the current year towards putting this new ground into order. This is far

from sufficient to clear and bring the whole area into cultivable condition, but it furnishes means to make a more substantial beginning than was possible during the past season.

The office and seed room were reported on last year as being well provided with furniture and fittings, but I found both to be lacking in articles of every-day use. Under G. O. No. $\frac{1090}{\text{X. B. X } 11\text{-}9}$, dated the 20th March 1905, a special grant of Rs. 200 was given to make good the defects, and which has been done by adding book cases, letter racks, writing tables, several chairs for the use of office visitors, bamboo chicks for the doorways; and to the seed room sets of new scales and more tin boxes for storage of seeds. Both rooms are now well furnished and for years to come are not likely to cause further expenditure under the head of furniture and fittings.

The garden as a whole is in fair order, but there are many untidy patches and corners loudly calling for attention. My connection with it has been brief but long enough in duration to impress it upon me that the untidiness which exists in places is not due to general neglect on the part of the former management but has been entirely owing to insufficiency of establishment. As the latter was strengthened in April of the present year, the current year should see many of the unkept corners in better order and the garden generally more ornamental and attractive to the eye of the visitor.

4. *Character of the season.*—The garden has hitherto not maintained a register of the rainfall, but from the records of the local meteorological observation station I have ascertained that the total fall of the year amounted to 42·59 inches. The regular monsoons are said to have burst towards the end of June, and from that time until they ceased in September, showers were good and came at timely intervals. The monsoon season may therefore be classed as an ideal one and altogether most favourable for general horticultural operations.

Several good showers occurred during the cold season, just at the right time to be of greatest benefit to the winter crops, and as the temperature ruled mild until near the close of the season, promises of heavy crops of everything were of the brightest. All these hopes were, however, destroyed by the occurrence during the last week of January and first week of February of one of the most severe spells of frost ever experienced in these parts, with the result that young nursery stock and garden crops were killed or blighted in wholesale quantities.

In fruit plants, the gardens lost over 8,000 mango seedlings, 2,800 mango grafts, or nearly the whole of the stock coming on for distribution during the current year, and over 1,000 jack fruit seedlings. Besides the above young stock, nearly all the five to ten year old grafted mangoes, or trees on which the garden depended for its supply of grafts, have been cut to the ground or so far back that nothing but bare branchless stumps are now left. Among palms, crotons and other valuable ornamental stock, the plants killed outright exceeded 6,000, while nearly the equal of that number have been damaged to such an extent that they will require a full season's nursing before they can be offered as saleable specimens. Among young ornamental timber trees, over 500 were killed outright, while thousands have been very seriously damaged.

In the vegetable garden, the tomato, Cape gooseberry, capsicum, brinjal, mustard, and cress crops were completely destroyed, while most of the other contents were more or less injured.

Every effort will be made by devoting increased attention to propagation during the current season to repair damages, but it will be years before the full effects of the disastrous frost of January—February 1905 will have completely worn off.

II.—ACCLIMATIZATION AND OTHER EXPERIMENTAL WORK.

5. *Fruit and food producing trees and plants. Fruit crops.*—The following fruits are said by the native head gardener to have yielded good crops :—Litchees, mangoes, pineapples and pummeloes, while the following have been classified by him as moderate to light in yield :—Figs, grapes, peaches, plums, oranges, limes and lemons.

Fruit nurseries.—The demand for fruit trees was far in excess of the available supply. This section of the garden is, I regret to say, far from being in a satisfactory condition. The late severe frost, as has already been indicated, did not improve matters ; but apart from the losses caused by it, the fruit nurseries show transparent signs of not having received much attention for several seasons past. It is hoped that matters will be improved during the current season, but it will take a period of, at least, two years to work stocks up to somewhere near the level needful to meet the demand which has been shown to me to exist. See Appendix C.

Mango. (Mangifera indica).—Two plants of a late-fruiting variety of mango known as the "Multani" were procured from the Government Botanical Gardens, Saháranpur, and added to the garden collection. The variety possesses a medium sized fruit of very fine flavour, and as it is in season from the middle to the end of October, its lateness in ripening is a very strong recommendation for giving it attention.

Peach. (Prunus persica).—Two varieties of peach, one known as the "Waldo" and the other as the "Yellow Peshawar" were also procured from Sáháranpur. The first is from Florida and the second, as its name infers, from the Peshawar valley, while both are as yet untried sorts so far to the south. The progress of this introduction will be duly noted in a future report.

Vegetable garden.—The usual area of ground was devoted to the culture of cold season vegetables, but the quantity of vegetables it produced was very far short of actual requirements. It has therefore been very forcibly impressed upon me that the work of clearing and levelling the lately added new area must be pushed forward during the current season with vigour to provide room for considerably increasing the output of vegetables.

6. *Other trees and plants of economic value. Agava Sisalana.*—The interest in this fibre-yielding plant continues as keen as ever. Many enquiries concerning it and other kindred species came to hand and were answered as fully as the information at command would permit. The issue of young plants of sisal was Rs. 6,500 or 1,100 more than were distributed in the previous year.

It has been found that the fibre of most of the species of Agavas found in the hedges of Northern India realise nearly as high a price in the London market as true sisal, so growers are now being recommended not to pin their faith entirely upon sisal, but to also plant the common kinds, young plants of which can be had from boundary fencing in many parts of the country at the mere cost of gathering.

Castilloa elastica.—Ten strong seedlings of this valuable rubber-yielding plant have been raised from seeds received frem British Guiana. I was under the impression that the plant was not hardy in Northern India, but the contrary has proved to be the case. The seed pan containing the seedlings has stood through a winter which will be long remembered for its exceptionally severe spell of frost under no other cover than was afforded by the shade of a tree without the plants shedding a leaf. It is a doubtful question whether rubber-yielding trees are of any economic importance in this part of India; however, if the examples of Castilloa we have here turn out to be rapid growers, and will thrive under a minimum of care, it may at some future time be worth while arranging for seeds for the extended culture of the tree.

7. *Ornamental trees and plants.*—The demand for ornamental trees, shrubs, foliage and flowering pot-plants was good, the issue being 17,549 against 17,367 last year. In addition to the foregoing, 5,966 bulbs and tubers of various kinds were issued against 5,725. See Appendix C.

The total issue for the year of plants of all kinds was 37,480 or 1,265 less than the issue of last year. The decrease was due to a less issue of strawberry plants, the figures under this head being 6,100 against 8,100 last year.

The stock of plants still on hand runs to many thousands, but a large proportion consists of plants in an early stage of growth, and in many instances far too small to offer as saleable subjects. The garden has therefore not yet recovered from the heavy calls made upon it by the Delhi Durbar, nor is it likely to do so for several years to come.

See Appendix A.

Seeds.—The demand for both vegetable and flower seeds was greater than last year and in most instances the stocks on hand proved sufficient to fully meet the increased calls that were made. Under vegetables, the issue was 4,746 packets against 3,947 and under flowers, 7,149 packets against 6,796, while if weight is contrasted, the figures show an issue of 1,880 pounds against 1,798 pounds last year.

III.—FINANCIAL RESULTS.

8. *Receipts.*—These were estimated at Rs. 18,500 while the actual receipts were Rs. 19,351, or Rs. 851 more than the estimate. The value of plants, seeds, &c., issued free and at reduced rates amounted to Rs. 2,105. If this is added to actual receipts, the total revenue for the year amounts to Rs. 21,456, or an increase of Rs. 315 over the figures of last year.

9. *Expenditure.*—This was estimated at Rs. 19,600, while the actual expenditure was Rs. 22,177, or Rs. 2,577 more than the estimate. The excess was due to cost of kankar for finishing the metalling of the garden roads, laying out the ground in front of the Sikandarbagh wall and archway under grass, additions to office furniture, &c. Sanction for the excess of expenditure over the estimate was given in G. O. nos. 1236/XII-363E, 815X-B-X/1—9 and 1090/X-B-X-11-9, dated the 14th June 1904, 3rd March and 20th March 1905, and Accountant-General's letter no. T.D.I/0446, dated 22nd November 1904.

10. *Surplus or deficit.*—If the total receipts of the year are compared against the total expenditure, the result shows a deficit of Rs. 721. If the book credits are excluded and only the actual cash realized and paid into the treasury is taken for comparison, the result gives a total deficit of Rs. 2,826 on the work of the year.

IV.—MISCELLANEOUS.

11. *Training of gardeners.*—Thirty applications were received during the year for trained men, but it was only found possible to meet five of these. The rate of pay offered was in most instances too low to induce men to leave their homes, but even if matters had been entirely satisfactory in this respect, it would not have been possible to find men in sufficient numbers to comply with all the applications which were received.

Several changes again occurred during the year among the apprentice staff. Five boys appear to have voluntarily left the garden while one was transferred to a permanent post in the Wingfield Park. The vacancies were filled with new boys as they occurred. I find from the report of last year that my predecessor attributed the constant changes which goes on among the apprentice staff to jealousy and quiet persecution on the part of the older hands ; but I have failed to trace any such feeling. As far as I can judge, the changes appear to be due to the boys, after a year or two of training in this garden, easily obtaining much higher rates of pay in the many private gardens around Lucknow than is given by the garden. Raising the garden rate to a higher level during their service of apprenticeship would, I fear, not mend matters, so there appears to be no alternative but to take very broad views and reasonably assume that some good is being done to the horticulture of the neighbourhood by outside gardens being able to get boys who have had some training in an institution of the standing of the Horticultural Garden.

Subscribers.—The number of subscribers is ten, of which six are first and four second class.

Comparing these figures with those given last year, they show a reduction of one first and three second class members during the year. For reasons given in the last annual report, it has been definitely decided to abolish the system of having subscribing members. Those still on the roll will be retained until they voluntarily withdraw their names, but new members will no longer be accepted.

12. *Arboriculture.*—The arboricultural nursery is, I regret to say, far from being in a satisfactory condition. The stock of trees which I found on hand for purposes of distribution chiefly consisted of mango seedlings standing from 6 to 9 inches high, and as the whole of these have been swept away by the phenomenal frosts of January—February last, it will not be possible to meet more than a fraction of the demand of the current season. The trees still remaining in the nursery chiefly

consist of various species of Ficus and number 7,580 plants. Of these more than two-thirds are not of a size fit for issue, so the total stock to draw upon for the operations of the current season only numbers about 2,000 trees. The issue during the year was 2,859 trees. The allotment for maintenance was Rs. 1,280, of which Rs. 1,047 was spent, a balance of Rs. 233 lapsing. The revenue of the year amounted to Rs. 194, and was credited with the Chairman, district board.

Arrangements are being made for more extensive propagation during the current season, but it will take two years at least to work the nursery up to a condition capable of meeting every possible call in full.

Eucalyptus Plantation.—This was given a general overhaul by thinning out the smaller and more weakly specimens. The trees which remain will thus have more root room and a better chance of attaining to full proportions. The plantation as a whole is in good condition and most picturesquely covers what would otherwise have been a most untidy corner.

The sum alloted for maintenance was Rs. 350, of which Rs. 274 was spent, a balance of Rs. 76 lapsing. In future no separate establishments for the maintenance of the plantation will be entertained while the present special allotment of Rs. 350 has been given up. Two men are now only required for preventing trespass and theft, and these will be found out of the ordinary establishment of the garden.

Exotic Plantation.—There is again nothing which calls for special notice in connection with this plantation. As all the trees which are under culture are already represented by specimens growing within the garden proper, no useful purpose appears to be served by continuing to give the details on the condition of the trees, which regularly appeared in former reports. It has therefore, in consultation with the Director of Land Records and Agriculture, been decided to discontinue giving such details in future. The plantation is conterminous to the arboriculture nursery and will now be considered as forming a part of it. When there is anything of sufficient interest to note, it can very conveniently be recorded when commenting upon the general state of the nursery. The allotment for maintenance was Rs. 100, out of which Rs. 88 was spent. As this special allotment has been discontinued from the beginning of the current financial year, no expenditure will appear in future directly under the head of exotic plantation.

13. *Flower Show.*—This popular function was held in the Wingfield Park on the 4th of March. Owing to the severe frost which occurred about a month before it was at one time feared that it would be impossible to find sufficient garden produce to furnish a show, but in the end such fears proved to be groundless. Certain sections were not so well represented as usual, but the splendid condition of all that was brought forward for exhibition, both in flowers and vegetables, more than compensated for the blanks found in certain classes. The show as a whole was therefore a good one, and apparently fully up to the average of former years.

Receipts amounted to Rs. 1,122, while expenditure was Rs. 985. The balance of Rs. 137 was added to the show fund and credited to its account in the Bank of Bengal. The total now at credit in the fund amounts to Rs. 764.

14. *Conclusion.*—My acknowledgments are due to Babu Anand Bihari Lal, head clerk, for the assistance he has rendered me during the time I have been here, while special acknowledgment is due to him for the painstaking manner in which he supervised the work of the garden and office during the period covered by the illness of the late Superintendent. Ganeshi, the head garden chaudhri, is also deserving of commendation for the close attention he gives to his duties and for the manner in which he has tried to second my efforts for improving the garden generally.

W. GOLLAN,
Supdt., Govt. Horticultural Garden,
Lucknow.

26th May 1905.

APPENDIX A—(*See report, paragraphs* 8 *and* 9)

Statement showing the Receipts and the Expenditure of the Government Horticultural Garden, Lucknow, for the year ending 31*st March* 1905.

Heads.	Actuals of 1903-04.	Budget head for 1904-05.	Actuals of 1904-05.
1	2	3	4
	Rs.	Rs.	Rs.
Receipts	19,294	18,500	19,351
Total, Receipts	19,294	18,500	19,351
CHARGES.			
Superintendent	3,816	3,807	3,856
Establishment	5,109	6,110	5,353
Allowances	21	200	188
SUPPLIES AND SERVICES.			
Purchase of seed and plants	4,398	4,000	4,075
Do. of live-stock	200	270	205
Feed of live-stock	1,598	1,500	1,753
Purchase of manure	42	100	100
Maintenance of premises	3,900	600	2,451
Cooly labour	1,270	1,100	1,635
Contingencies	1,925	1,913	2,561
Total, Charges	22,279	19,600	22,177

APPENDIX B.

List of Contributors to the garden during the year ending 31*st March* 1905.

Name of Contributor.	Name and description of articles contributed.
R. T. Baker, Esqr., Curator, Technological Museum, Sidney, New South Wales.	12 packets of Eucalyptus of kinds.
Messrs. Vilmorin Andrieux & Co., Paris,	200 seeds of Areca lutescens.
Rev. N. L. Rockey, Sítapur ...	1 packet Musa superba seeds.
The Superintendent, Government Botanical Garden, Saháranpur.	2 lbs. Beet country.
	1 packet palm seeds.
	2 lbs. sweet pea mixed.
	5 oz. Corypha australis.
	1 oz. Calamus tenuis.
	30 plants of sorts.
	20 kinds of Cannas.
	169 plants, shrub and fruits of sorts.
	6 packets of cotton seeds ; 6 kinds.
	2 packets acclimatized vegetable seeds.
	1 lb. Pinus longifolia.
	3 packets ornamental grass seeds.
	2 oz. Camphor seeds.
	4 packets imported herbs.
	100 plants Chrysanthemum unnamed seedlings.
	122 plants Chrysanthemum with names.
The Superintendent, Botanical Garden, George Town, British Guina.	55 packets shrub and palm seeds.
The Cantonment Magistrate, Lucknow,	20 packets shrub and tree seeds.
Dr. A. Robertson. Proschowsky, M.D., Grottes Parc. Les Tripiques Chemindes. St. Heliric Nice, A.M., France,	12 packets shrub seeds.
Mrs. Chapman, Rajpur, Dehra Dún District.	1 packet Stephanotis floribunda.

APPENDIX B.

List of Contributors to the garden during the year ending 31*st March* 1905—(concld).

Name of Contributor.	Name and description of articles contributed.
The Inspector-General of Forests, Simla,	½ lb. Arundinaria Hookeriana.
H. St. John Jackson, Esqr., 5-1 Council House St., Calcutta.	1 seed Rivea hypocrateriformis.
Messrs. Sutton and Sons, Reading, England.	18 packets vegetable seeds imported.
Signor C. Sprenger, Vomero, Naples, Italy.	53 packets of shrub and palm seeds.
A. H. Pirie, Esqr., Lucknow ...	10 kinds of rose cuttings.
The Director, Public Garden, Kingston, Jamaica.	3 kinds shrub seed.
The Director of Land Records and Agriculture, Cawnpore.	3 kinds melon seed.
Miss Newcoman, Lucknow ...	3 kinds orange seeds.
Nathu Singh, Head Gardener, Viceregal Park, Barrackpur.	4 kinds palm seeds.
Mr. P. Joshi, Botanical Garden Entibbe, British East Africa.	9 kinds of timber and shrub seeds.

APPENDIX C—(*See report, paragraphs 5 and 7*).

Showing the amount of plants and seeds distributed from the gardens during the year ending 31st March 1905.

Names of departments, &c., supplied.	Plants.									Seeds.					Total.	
	Fruits.			Ornamental and timber trees.		Ornamental plants and shrubs.		Bulbs and tubers.	Total.	Vegetables.	Flowers.	Fruits.	Trees and shrubs.	Miscellaneous.	Number of packets.	Weight.
	Plants.	Cuttings.	Strawberries.	Plants.	Cuttings.	Plants.	Cuttings.									lb oz.
Arboricultural	200	...	...	...	...	...	...	...	200	...	...	...	...	...	...	
General public	3,822	...	2,500	1,690	...	13,652	625	5,372	27,661	4,233	6,973	5	182	...	11,393	1307—16
Government and public gardens in India.	672	...	3,600	540	...	3,857	20	594	9,283	407	155	...	40	...	602	541—19
Government and public gardens in other countries.	...	40	...	...	...	...	...	...	40	...	...	...	261	...	161	12— 8
Jails...	256	...	...	...	...	40	...	...	296	106	21	...	...	...	127	18—10
Total ...	4,950	40	6,100	2,230	...	17,549	645	5,966	37,480	4,746	7,149	5	483	...	12,283	1880— 5

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on 24 February, 2020

ORDERS OF GOVERNMENT.

No. $\frac{1931}{\text{I}—\frac{564}{1905}}$ OF 1905.

FROM

E. F. L. WINTER, ESQ.,

CHIEF SECRETARY TO GOVERNMENT,

UNITED PROVINCES,

TO

THE DIRECTOR OF LAND RECORDS AND AGRICULTURE,

UNITED PROVINCES.

DATED NAINI TAL, THE 27TH JUNE 1905.

SIR,

REVENUE DEPT. I AM directed to acknowledge the receipt, under cover of your letter no. $\frac{1351}{\text{V}—835}$, dated the 10th instant, of the annual report on the Government Horticultural Gardens, Lucknow, for the year ending 31st March 1905.

2. The acknowledgements of Government should be conveyed to the contributors to the gardens.

I have the honour to be,

SIR,

Your most obedient servant,

E. F. L. WINTER,

Chief Secretary.